

The '994 patent discloses a drag type drill bit having cutting elements and fluid discharge orifices positioned such that a single orifice is utilized for a plurality of cutting elements (Col. 2, ll. 65-67). A stud-type cutting element is disclosed, having a flat disk disposed thereon, at an angle to the longitudinal axis of the stud (Col. 4, ll. 55-62 and Fig. 4). Disposed upon the flat disk of the stud is an outer diamond layer (Col. 4, ll. 62-65 and Fig. 4 reference 54). As can be seen in Fig. 4, the diamond layer 54 comprises a relatively thin overlay on the cutting face 53. In order to permit proper orientation and exposure of the cutting element, the bit body 32 extends further along the rear of the cutting element and is shorter along the side having the cutting face 53. Thus, there is a relatively large space between the cutting face 53 and the bit body 32.

The Examiner has asserted that this space between the cutting face 53 and the bit body 32 is analogous to the relief groove of the instant application. The Applicant respectfully asserts that this is not correct. Specifically, the Applicant respectfully directs the Examiner's attention the language of independent claims 5, 8, and 11, all of which state: "...the mounting pad having a relief groove therein..." Thus, the claim language requires that the relief groove is disposed *within* the mounting pad. Thus, even if one were to assume, *arguendo*, that opening 42 (Figure 4) was analogous to a mounting pad, the space between bit body 32 and cutting face 53 which the Examiner contends is a relief groove is not contained within the mounting pad.

Rather, the type of studs used in the '994 patent, having the majority of their substrate embedded within the body of the bit, require that the bit body be formed so that the studs can be supported on one side against the forces exerted by their contact with the hole bottom, while the other side is recessed to expose the entire cutting face to the hole bottom. Therefore, the area characterized as being analogous to a "relief groove" is actually no more than an artifact of using that specific type of stud. Accordingly, the '994 patent does not teach or suggest a relief groove as recited in the instant claims.

Further, the '846 patent fails to provide the teaching which the '994 patent lacks. Nothing in the '846 patent discloses or suggests the provision of a relief groove, as recited by the claims. Thus, the provision of a relief groove according to these claims with this type of cutting element, as opposed to the studs of the '994 patent, is a novel feature of these claims that is neither disclosed nor suggested by either prior art reference. Therefore, claims 5, 7, 8, 10, and

11 are allowable over these prior art references. Accordingly, withdrawal of this rejection is respectfully requested.

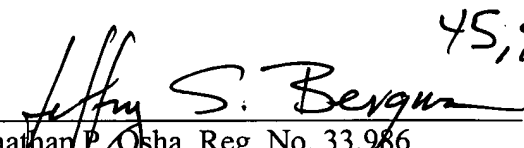
Claims 6 and 9 were rejected as being obvious over the '994 patent in view of the '846 patent and further in view of U.S. Patent No. 6,220,117 B1, issued to Butcher ("the '117 patent"). This rejection is respectfully traversed. Because claims 6 and 9 depend from claims 5 and 8, respectively, they are patentably distinct for at least the same reasons discussed above with regard to independent claims 5 and 8. Neither the '994 patent nor the '846 patent discloses or suggests the use of a relief groove disposed within the mounting pad as recited in claims 6 and 9. The '117 patent also fails to disclose or suggest such a combination. Rather, it relates only to a particular bit body composition. Therefore, claims 6 and 9 are allowable over these prior art references. Accordingly, withdrawal of this rejection is respectfully requested.

Conclusion

Claims 5-11 have been shown to be allowable over the prior art. Applicant believes that this paper is responsive to each and every ground of rejection cited by the Examiner in the Action dated February 18, 2003, and respectfully requests favorable action in the form of a Notice of Allowance. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 05516.084001). Further, the Applicant respectfully requests that the Examiner consider and return an initialed copy of the IDS filed April 2, 2003.

Respectfully submitted,

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